

ABSTRACT OF THE DISCLOSURE

Network devices, carrier mediums and methods are disclosed herein for updating a memory structure in a data plane of the network device when route updates are received in the control plane of the network device. The methods described herein can be used to perform one of the following algorithms: a Basic Incremental Split-Merge (BISM) algorithm, a Lazy Incremental Split-Merge (LISM) algorithm, and a Down-support Split-Merge (DSM) algorithm. Each of the algorithms described herein may be used to incrementally update portions of a forwarding database stored within the memory structure, where the updated portions correspond to only those portions affected by the route updates.